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The mediating effect of job satisfaction in the relationship between wages, appreciation, recognition, and promotion on employee performance

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ABSTRACT

BACKGROUND AND OBJECTIVES: The manufacturing industry is the foundation of the Malaysian economy. The manufacturing industry in Malaysia is diverse, but it has consistently demonstrated superiority in several industries, including semiconductors, pharmaceuticals, medical technology, oil and gas, and the processing and management of palm oil and rubber. Businesses may find themselves in a very hazardous situation if their employees are dissatisfied. Improving employee performance can help an organization increase its production volume and productivity. A lack of worker satisfaction can lead to disinterest and an inability to achieve specific goals. When new employees notice a pay disparity, dissatisfaction, disengagement, and disloyalty arise. It happens when workers believe they are being mistreated or unfairly treated. Businesses must prioritize the well-being of their employees because it is more important to retain them than to let them go. To remain competitive, the organization must keep qualified or competent staff motivated. The study aims to determine the mediating effect of job satisfaction in the relationship between wages, appreciation, recognition, and promotion on employee performance among employees at a multinational semiconductor company in Melaka.

METHODS: For this investigation, the quantitative method was used to analyze information using partial least squares structural equation modeling. This study's sample size is 137, based on the partial least squares structural equation modeling sample size recommendation for an 80% statistical power. Employees of multinational semiconductor companies in Melaka received 142 questionnaires. The partial least squares structural equation modeling sample size table determines the sample size in this study, which combines convenience and nonprobability sampling. The relationship between the variables is determined through hypothesis testing. partial least squares structural equation modeling was used to analyze the data.

FINDINGS: As a result, all eleven hypotheses were evaluated based on the variables- wages, appreciation, recognition, promotion, and job satisfaction have a positive and significant relationship with employee performance. The hypotheses have been accepted with a p-value ranging from 0.005 to 0.048. For direct relationship, the hypothesis from 1-7, there is a positive correlation ($t = 2.993$ to $t=4.521$, $p \leq 0.005$) between wages, appreciation, recognition, promotion, job satisfaction, and employee performance. Therefore, hypotheses 8-11 show an indirect relationship (mediating effect) that positive correlation with a significant p-value of 0.010 to 0.048 between an independent variable (wages, appreciation, recognition, and promotion), mediating variable (job satisfaction), and dependent variable (employee performance).

CONCLUSION: The study provides empirical evidence and conceptual proof that the establishment of policy recommendations derived from the findings should consider Malaysian legal regulations. The management by objectives policy was implemented to improve organizational performance by establishing well-defined goals that management and employees can agree on. The management by objectives approach is a technique for inspiring workers through constructive management techniques because the management objectives approach can increase communication between management and employees. As a result, the management strategy contributes to improving employees' wages, appreciation, recognition, promotion, job satisfaction, and performance.

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INTRODUCTION

Malaysia's manufacturing industry excels in various sectors, including semiconductors, pharmaceuticals, medical technology, oil and gas, palm oil, and rubber processing. With increasing global demand, the Global semiconductor market is projected to reach US\$617 billion in 2024 (Burkacky *et al.*, 2022), with multinational companies like Texas Instruments, Infineon Technologies, and Vishay Semiconductor in Melaka. The COVID-19 pandemic, which hit nearly a year ago, is expected to cause the world's worst recession since the Great Depression in 2020. In Malaysia, there are reports of a semiconductor factory in Batu Berendam, Melaka, being forced to reduce production capacity due to the outbreak (Global Platform for Sustainable Cities, World Bank, 2019). From an industrial perspective, social sustainability can be achieved through human development, encompassing training, education, fair compensation, a healthy work environment, and a strong company culture (Ullah *et al.*, 2021). Therefore, the key theoretical perspective, this study significantly enhances understanding and comprehension of motivation and satisfaction theories in the manufacturing industry of developing countries like Malaysia. One of the most crucial objectives of an organization in recent times has been to effectively manage its workforce by promoting positive attitudes such as higher output, job satisfaction, and performance while discouraging negative attitudes like high employee turnover, absenteeism, and abnormal behavior at work (Prasetya *et al.*, 2023). Moreover, poor job satisfaction management can lead to high staff turnover, unhappiness due to low organizational commitment, excessive absenteeism, and low productivity (Khairunnisa *et al.*, 2022). Despite being permitted to operate, 60% of the workforce was instructed not to visit the factory, which impacted supply. A prominent semiconductor factory in operation is Infineon Technologies, and they have issued a warning about the impact of the semiconductor chip shortage on the smart car industry, the company's main product. The containment measures implemented are in response to the COVID-19 pandemic that has hit the global economy. In this situation, employee job satisfaction has been a major focus of research for industrial and organizational psychologists. People's

job satisfaction levels indicate how much they enjoy their work (Ali *et al.*, 2021). The concept emphasizes how essential employees are to a business and how important it is for them to be satisfied, motivated, and productive. Haryono *et al.*, (2020) highlight the significant impact of reward and job satisfaction on employee and organizational performance, prompting ongoing studies and future research to explore this relationship. In today's globalized world, there is a growing focus on enhancing employee performance and job satisfaction to enhance management in manufacturing organizations. Andreas (2022) suggests that a highly competitive firm must take various steps to adapt to the rapid external changes in Europe. Management should consider factors like rewards, organizational systems, and recognition to improve employee motivation and job satisfaction, ultimately leading to improved performance within the company (Hidayat *et al.*, 2022). Multinational semiconductor companies in Melaka prioritize employee retention for long-term market survival. Employees' dissatisfaction with their current roles and desire to leave multinational semiconductor companies in Melaka is primarily due to inadequate pay (Asaari *et al.*, 2019). Organizations are developing innovative and efficient methods to engage their workforce (Chanana *et al.*, 2021). Employee satisfaction is determined by aligning compensation expectations with expectations, as satisfied employees are more likely to stay with a company, whereas dissatisfied employees may seek new opportunities. The manager-employee connection has an impact on employee satisfaction, and inadequate communication skills can result in subpar work output (Ceylan and Yavas, 2020). Khan *et al.*, (2021) highlight that a lack of appreciation is a significant factor contributing to occupational psychological suffering. Recognition is crucial for the success and sustainability of organizational transformation, serving as a foundation for learning organizations and a source of mobilization and engagement (Alrawahi *et al.*, 2020; Andavar and Ali, 2020; Sobaih and Hasanein, 2020). A study of the United Kingdom construction industry found that recognizing and rewarding employee effort is the most crucial organizational action for performance boosters (da Cruz Carvalho *et al.*, 2020). A company's success relies heavily on its employees' willingness to utilize their skills, knowledge, and creativity

for the business's benefit. Paying employees well can enhance productivity, drive, loyalty, and work satisfaction (Ali *et al.*, 2021). Workers invest significant time, effort, and skills in pursuit of compensation or recognition for their performance and output (Rinny *et al.*, 2020). As a result, the study identifies gaps in many industries in a different context. There are several studies conducted in the West thus far. Studies on Western workers' motivation and rewards may differ from those of Eastern nations like Malaysia due to differences in organizational culture, technical development, economic position, social and religious elements, political patterns, and managerial styles. The contribution of this study is appreciating employees' efforts is crucial for enhancing work performance and productivity. Research is essential to understand motivational factors and job satisfaction as a theoretical contribution. By identifying positive impact factors, employers can better understand and support employees, ultimately improving overall performance and job satisfaction. This study fills a knowledge, literature, and methodology gap in multinational semiconductor companies in Melaka by analyzing job satisfaction through wages, appreciation, recognition, and promotion and its impact on employee performance. It is a guideline for future research, examining new factors and approaches.

Literature review

Employee satisfaction significantly impacts their performance, leading to regular attendance, hard work, adaptability, and eagerness to complete tasks. The quality and drive of a manufacturing company's human resources determine its effectiveness and quality. Low job satisfaction can negatively impact job performance and product quality, negatively impacting the manufacturing sector (Nurlaila, 2022). Management can improve employee performance and job satisfaction by implementing wages that reflect their contribution to the company, their families, and society (Sudiardhita *et al.*, 2018). Continual feedback, including acknowledgment, constructive criticism, and positive feedback, can significantly enhance employee performance and satisfaction, increasing engagement (El Masri and Suliman, 2019). Employee dissatisfaction stems from the fairness of pay based on the work

performed, with many claiming they deserve higher compensation for the job (Alrawahi *et al.*, 2020). Wage satisfaction refers to an individual's satisfaction with their compensation when their perception of salary aligns with their expectations (Putri *et al.*, 2024). Wages are a crucial component of employee compensation and a significant source of inspiration and stimulation (Ali *et al.*, 2021). Promotion in a hierarchical workplace raises an employee's rank, indicating higher performance standards, access to resources, prestige, proficiency, and higher pay and perks. Employees are primarily interested in work promotions as they highlight job components with job descriptions and job dynamics (Rinny *et al.*, 2020). Flipo's hypothesis in Ogini (2020) suggests that promotion refers to the transition to a job with greater prestige and responsibility. Recognition and intrinsic benefits significantly influence employee attitudes and work output. Employees desire a competitive salary, appreciation, and consideration of their contributions. Businesses should prioritize staff recognition to enhance morale and motivation (Musangi *et al.*, 2023; Haryono *et al.*, 2020). Job performance and employee appreciation are closely linked, with high performance resulting from a combination of work-related talent and motivation. Appreciation boosts morale, improves productivity, and is a motivational tool (Febrianti and Se, 2020; Syamsir, 2020). UAE employees, despite financial incentives, prefer stimulating work environments over stressful ones, which can lead to low job satisfaction (Alblooshi, 2021). The employer's treatment of respect is the most significant predictor of job satisfaction in the United States. The job's financial aspects, including pay, benefits, company culture conformity, employee value, and organizational ties, are crucial factors to consider. A study in Bangladesh found that enhancing the working environment through better facilities significantly enhances job satisfaction (Taheri *et al.*, 2020). Paais *et al.*, (2020) highlight that in Indonesia, enhancing job satisfaction requires enhancing motivation, leadership, and organizational culture among employees. Job satisfaction increases employee performance in Indonesia, while low pay, hazardous working conditions, long hours, and poor safety records in China lead to lower performance and organizational efficiency (Siriattakul *et al.*, 2019). Malaysian organizations face job satisfaction

and performance reduction due to pressure, lack of motivation, low pay, and inadequate leadership. Inspiring employees, recognizing their abilities, and ensuring employees are aware of the organization's standards and objectives can improve job satisfaction (Vinh *et al.*, 2022; Haryono *et al.*, 2020; Shah *et al.*, 2020). Younger employees are more productive when offered more rewards and growth opportunities. Malaysia's high turnover rate is due to job satisfaction issues, family distractions, work pressure, stress, and inadequate pay. Western workers' job satisfaction and performance may differ from Malaysia (Asaari *et al.*, 2019; Wolor *et al.*, 2020). Research shows job satisfaction significantly impacts employee retention, performance, and job interest, as per studies by Andreas (2022), and Rinny *et al.*, (2020). In the Malaysian context, organizations face reduced job satisfaction and performance due to work pressure, lack of motivation, low pay, and inadequate leadership (Shanmugam *et al.*, 2022). Employees who are inspired are more content with their work and work harder, leading to higher productivity output. Companies that acknowledge and value their employees' abilities and expertise can boost job satisfaction, while employees who are fully aware of the organization's standards and objectives can maintain business efficiency. The study initially conducted in Western countries suggests that rewards and work motivation among Western employees may differ from those in Eastern countries like Malaysia (Muhammad Hasmi, 2019). Previous studies in Malaysia have primarily examined work-life balance, leadership style, working conditions, and person-job fit as factors influencing job satisfaction (Prasetio *et al.*, 2019). This study explores variables like wages, promotion, recognition, and appreciation to improve human resource practices, aiming to increase job satisfaction and provide a competitive advantage for businesses. The empirical gaps for this study are depicted in Table 1.

Hypothesis, variable terms, and theoretical foundation

Analytical framework

Jobsatisfactionisanemotionalstateresultingfrom an individual's assessment of their job experiences, as defined by Locke *et al.* (1976). Organizations must enhance employee job satisfaction by developing

systematic rules and processes and improving motivation and satisfaction through an incentive system. Job performance and actual performance refer to an employee's actual work performance or accomplishment, encompassing both quantity and quality of work in line with their assigned duties (Andreas, 2022). Spilerman *et al.*, (1999) define promotion as the transfer to a position with greater prestige and responsibility. Constructive criticism, such as employee appreciation, can be seen as a strategy to improve an employee's behavior or emphasize the achievement of a specific task. Assari *et al.* (2019) define wages as the monthly or annual remuneration paid to employees. Employers can enhance employee performance and motivation by providing competitive wages, incentives, promotions, and job security. Hypotheses 1, 2, and 8 indicate that the hygiene theory positively influences wages, job satisfaction, and employee performance. Conceivably, hygiene theory can relate to wages, supervision, security, and working conditions, while motivators focus on achievement, responsibility, and job satisfaction, and insufficient salaries can lead to job dissatisfaction (Innoyatova, 2021). Research by Lee *et al.*, (2022) shows that job discontent among employees who do not receive enough compensation and welfare benefits results in poor performance and attitudes. Rahman *et al.*, (2022) suggest that companies prioritize employee satisfaction and performance by providing appropriate wages and ensuring a positive work environment. Employers should promote job satisfaction and performance and provide suitable wages to employees within the organization (Amin, 2021). Hypothesis 3, 4, 9, and 10 suggest that incentive theory positively impacts employee appreciation, recognition, job satisfaction, and performance. Some writers emphasize the importance of expressing gratitude or appreciation to employees as a motivating tool to them (Syamsir, 2020). Ali *et al.*, (2021) identify a lack of appreciation as the second leading cause of occupational psychological suffering. Hassan *et al.* (2020) highlight stress tolerance as a crucial factor for managers to manage demanding work environments effectively. Human resources management techniques like motivation, recognition, incentives, appreciation, and career possibilities may have an impact on job satisfaction, which is crucial for productivity and performance and requires social involvement

Table 1: Empirical gaps of the study

Author / Year	Contextual Gaps	Knowledge Gaps	Contribution	Findings
Díaz et al. (2023)	Costa Rican companies in <u>Central America</u>	Emotional wage -> job satisfaction	The post-Covid-19 era emphasizes the importance of enhancing human talent management practices by focusing on improving job satisfaction and internal customer motivation through emotional pay. In today's globalized market, companies can generate significant added value by being more innovative, creative, and competitive.	The study found that inferentially emotional pay positively influences job satisfaction, aligning with the research objective. The coefficients suggest an acceptable value for the theoretical model to be significant, with a RMSEA of 0.095 > (0.05 to 0.08).
Marsinah et al. (2023)	T. Wilmar Food Jambi, Indonesia	Work Wages -> employee performance	A company's success is determined by its effective management of resources and human resources. Good performance enables the achievement of individual and organizational goals, and various work motivation factors improve employee performance.	The analysis reveals that wages significantly impact employee performance, with 85% of positive responses and 97% of positive responses indicating that higher wages lead to better performance.
Magdalena et al. (2024)	PT Wahana Ottomitra Multiartha Tbk	Mutation and Promotion -> job satisfaction -> employee performance	Mutations and promotions should be based on objective assessments of employee achievements, allowing them to develop their potential. Human resources are vital assets in institutions, but their availability is useless if not competent and committed.	The correct mutation significantly increases job satisfaction among employees of PT Wahana Ottomitra Multiartha Tbk, indicating that mutation is a key factor in job satisfaction. PT Wahana Ottomitra Multiartha Tbk has shown that mutations, when conducted correctly, significantly improve employee performance. PT. Wahana Ottomitra Multiartha Tbk's employee performance is significantly influenced by job satisfaction, indicating that higher job satisfaction can enhance performance. Mutations directly influence employee performance at PT. Wahana Ottomitra Multiartha Tbk, with job satisfaction having a smaller impact.
Iskandar et al. (2024)	Tourism Industry	Training Effectiveness -> Work Environment -> job satisfaction -> employee performance	The government and private sector manage tourism infrastructure, including hotel accommodations, restaurants, and attractions. This efficiency creates job opportunities and boosts the local economy. Travel agents play a crucial role in planning and organizing tours.	The study reveals that work satisfaction and soft skills training positively impact employee performance, while improving the work environment has a negative impact, suggesting that addressing job satisfaction and developing soft skills is crucial for enhancing performance.

and appreciation (Herrera et al. 2018; Silvia et al. 2021). Recognition and gratitude are key strategies for meeting employees' needs and achieving job satisfaction, as suggested by (Ramya et al, 2023 and Zaid et al., 2021). Nevertheless, hypotheses

5, 6, and 11 suggest that expectations theory positively impacts promotion, job satisfaction, and employee performance. Vroom's Expectancy Theory suggests that employees are more likely to work harder if they believe their efforts will yield positive

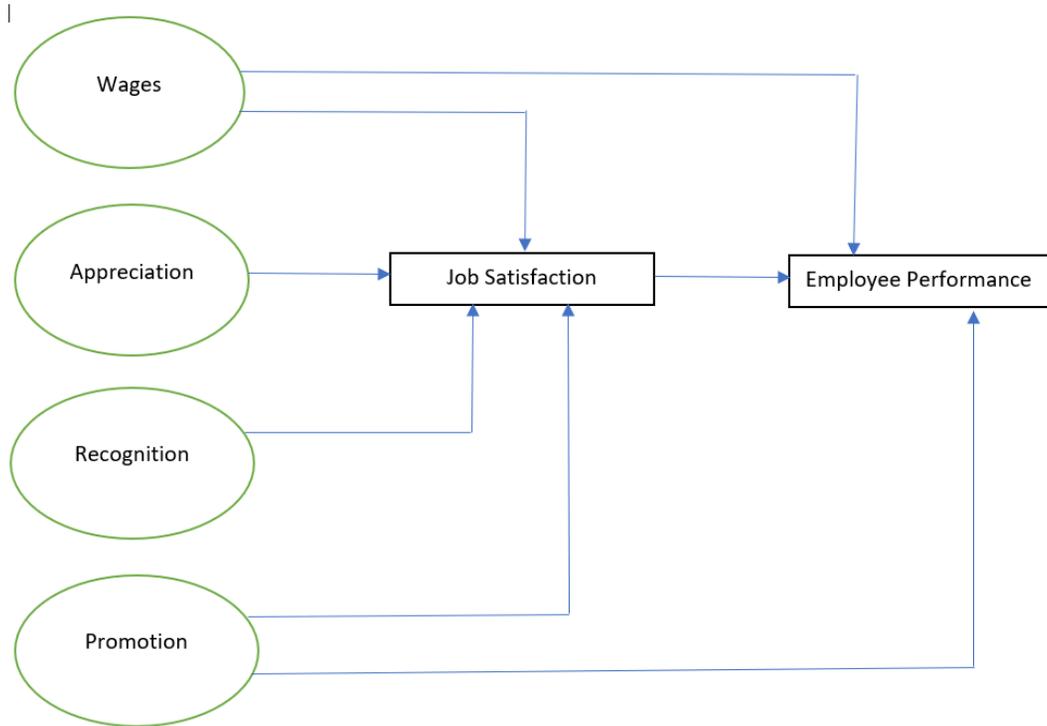


Fig. 1: The conceptual model discovers the mediating effect between motivation factors, job satisfaction, and employee performance.

results (Tiwari *et al.*, 2023). According to Asaari *et al.*, (2019), promotions can enhance workers' perception of their work as fulfilling and fascinating. Companies investing in performance-related investments can enhance workforce performance, reduce career concerns, and boost work satisfaction and organizational productivity (Lee *et al.* 2022). Razak *et al.* (2018) assert that job satisfaction is influenced by one's satisfaction with promotions, and a more methodical promotion system leads to increased job happiness and productivity. Lee *et al.*, (2022) found that promoted workers have high expectations for further promotion and are satisfied with their corporate promotion system's chances. The expectation theory suggests that individuals may be motivated to perform better for promotion, reflecting their diverse wants and motivations (Khan *et al.*, 2021). Promotions significantly impact employee performance and job satisfaction by enhancing or expanding an employee's knowledge and skill set. The conceptual framework for this study is depicted in Fig. 1.

The conceptual model discovers the mediating

effect between motivation factors, job satisfaction, and employee performance in Fig. 1. Herzberg's theory reveals that organizational policies, working conditions, and employer quality are key causes of employee dissatisfaction, while intrinsic factors like personal development and achievement drive motivation and well-being (Bhagwandeem, 2021). Job satisfaction significantly impacts employee performance, quality, productivity, and customer satisfaction. Studies show that happy employees exhibit positive attitudes, operate effectively, and are influenced by wages, appreciation, recognition, and promotion. Alrawahi *et al.*, (2020) identified salary, promotion, recognition, and organizational policy as key factors influencing employee job satisfaction. Herzberg's theory posits that job satisfaction is based on self-psychological factors such as pay, recognition, and motivation. Herzberg's fundamental wants and motives can inspire humans to work tirelessly and produce their best work. In today's competitive market, employee performance and job satisfaction are essential for organizations to meet their objectives. Ismail Hajjali *et al.*, (2022)

found that employees' work pleasure is directly linked to their performance. Employers often prioritize extrinsic rewards over intrinsic ones for employee motivation, as intrinsic rewards like gratitude and recognition boost motivation and output. Leaders must understand employees' needs, following Maslow's hierarchy of requirements. Adams' Equity Theory emphasizes fair inputs and outputs for employee satisfaction and performance, emphasizing procedural justice in human resources procedures for overall organizational success. [Mira et al., \(2019\)](#) identified employee relations, empowerment, promotion, incentives, recognition, training, development, and social support as crucial factors influencing job satisfaction and output. Equity theory helps employees understand fair treatment and motivation, particularly in the manufacturing sector, resulting in financial compensation, additional perks, incentives, and flexible work arrangements ([Khan et al., 2021](#)). The manufacturing industry significantly impacts employee morale, productivity, efficiency, and turnover, providing employers with insights into employee expectations to enhance performance. Vroom's expectation theory (1964) focuses on the relationship between performance, selection, and work satisfaction. [Van Eerde and Thierry \(1996\)](#) praised Vroom's theory as a popular motivational theory that explains the process and rationale behind human decision-making. [Silvia et al., \(2021\)](#) study explores the relationship between motivation, satisfaction, and performance, highlighting that human resource management techniques like job recognition and appreciation can impact employee satisfaction. [Ali et al., \(2021\)](#) expectation theory is used to understand employee expectations. However, Locke's Range of Affect theory examines how employees value various aspects of work, including co-worker relationships, pay, promotion, and supervision. A study by [Dugguh et al., \(2014\)](#) found that job satisfaction directly influences performance, with compensation and benefits being the most significant components. This theory helps identify variables affecting job satisfaction and discontent. The body of knowledge determines wage, appreciation, recognition, and promotion practices as essential factors influencing job satisfaction and employee performance in a semiconductor company in Melaka in 2024.

MATERIALS AND METHODS

Survey design and data collection

The research was primarily an explanatory study. Explanatory research tests hypothesized variables using explanatory techniques to explain the reasons behind their association based on research objectives ([Vira Anisya et al., 2021](#)). The research aimed to establish a genuine relationship between variables in a natural, non-contrived context, resembling real-world settings. The study utilized a deductive approach to test its hypotheses using quantitative techniques and closed-ended questionnaires, ensuring the validity of the theory and hypothesis. The study targets employees in multinational semiconductor companies in Melaka, including 8,000 in Infineon Melaka, 2000 in Texas Instruments, and 1000 in Vishay Semiconductor as of January 2023. This study focuses on the 11,000 employees in the multinational semiconductor industry in Melaka, employed by three companies. A survey was conducted on 130 employees of multinational semiconductor companies in Melaka, collecting data through questionnaires. The study employs a cross-sectional time horizon, collecting data primarily through a single questionnaire to obtain quantifiable parameters. In this study, non-probability and convenience sampling methods are used, obtaining samples based on the availability and convenience of respondents. Convenience sampling has limitations and biases that can impact the reliability and generalizability of findings so it offers several benefits such as its affordability, efficiency, and ease of implementation. Therefore, the recruitment process for convenience sampling (respondent) is random, involving individuals present in public spaces, streets, or workplaces. This study uses reflective measurements to gauge job satisfaction and employee performance. Statements such as "My job satisfaction affects my performance" and "Satisfaction with company promotion influences my performance" are used to represent latent variables. The study uses six latent variables: employee performance, job satisfaction, wages, appreciation, recognition, and promotion, as depicted in [Fig. 2](#). The questionnaire development is presented in [Table 2](#). As a result, questionnaires and surveys are effective research tools used by researchers in both academic and industrial settings to

Motivating factors and employee performance

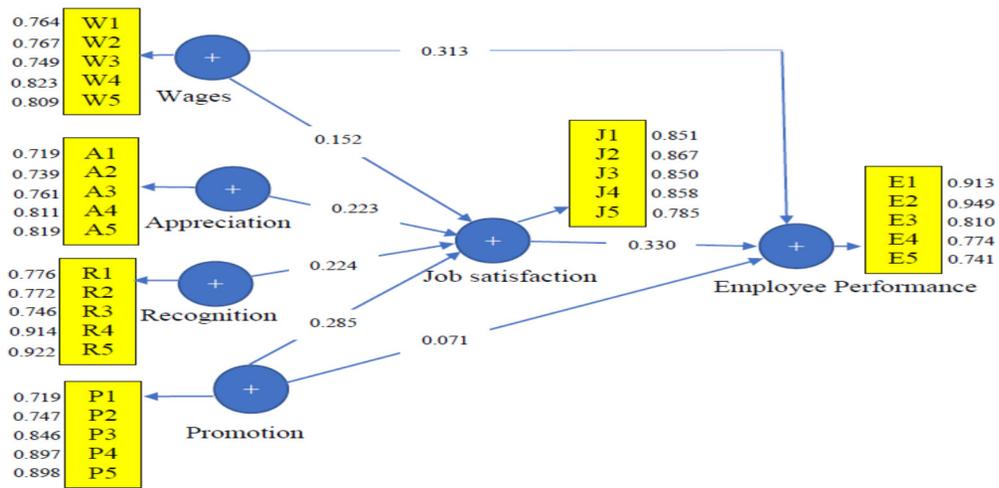


Fig. 2: The structural model – path coefficient

Table 2: Result of the respondent’s profile

Demographic	Categories	Frequency	Percentage (%)
Gender	Male	73	53.3
	Female	64	46.7
Age	20 and below	7	5.1
	21-30 years old	48	35.0
	31-40 years old	53	48.7
	41-50 years old	22	16.1
	51 and above	7	5.1
Working Experience	2 years and below	25	18.2
	3-5 years	27	19.7
	5-10 years	41	29.9
	More than 10 years	44	32.1
Position	Executive	76	55.5
	Non-Executive	61	44.5

collect targeted data for analysis and study. The study utilized a self-administered online questionnaire for data collection. The online survey was created using Google Forms and sent to respondents via WhatsApp and email. Surveys were distributed to multinational semiconductor employees in Melaka via a convenience sample approach via instant text-messaging mobile platforms, ensuring low contamination and high response rates. This study uses a Likert scale with five levels of agreement, utilizing closed questions designed for quicker and easier responses. The questionnaire uses a Likert-style rating system, with respondents rating their agreement or disagreement with statements on a 5-point scale, with neutral points indicating a neutral opinion. The study examines demographic profiles, employee performance, job satisfaction,

wages, appreciation, recognition, and promotion in multinational semiconductor companies in Melaka. It uses a 5-point Likert scale to select responses. The research also explores the mediating variable, job satisfaction, and the influence of these variables. The Partial Least Squares Structural Equation Modeling (PLS-SEM) model was selected for indirect measurement of constructs through indicators and latent variables, accounting for measurement errors and requiring fewer samples for small sample sizes, making it suitable for assessing structural equation models. The outer model in PLS-SEM analyzes latent variables and their measured indicators, evaluating construct reliability and validity and demonstrating relationships between constructs and indicator variables. The sample size was determined using Cohen’s (1992) formula. Cohen (1992) proposed

Table 3: Result of the reliability and validity analysis

Construct	Measurement Items	Outer Loadings	Composite Reliability	Cronbach's Alpha	AVE
Employee Performance	EP1: I feel happy to do my best at work.	0.913	0.924	0.875	0.797
	EP2: My performance is based on my job satisfaction.	0.949			
	EP3: My immediate supervisor is encouraging me to perform well.	0.810			
	EP4: My level of job satisfaction affects my performance.	0.774			
	EP5: My job is exciting, and I am satisfied with my job.	0.741			
Job Satisfaction	JS1: I feel satisfied with my wages.	0.851	0.822	0.818	0.732
	JS2: I feel satisfied when I was appreciated for my efforts.	0.867			
	JS3: I feel satisfied when I was recognized in my job.	0.850			
	JS4: I feel satisfied when I was promoted in my job.	0.858			
	JS5: I tend to perform well when I feel satisfied with my job.	0.785			
Wages	W1: I am satisfied with my salary package.	0.764	0.754	0.918	0.754
	W2: My company provides a salary based on experience and performance.	0.767			
	W3: I am satisfied with my job because of the salary that I were offered.	0.749			
	W4: I will perform well if I am satisfied with my salary.	0.823			
	W5: My performance is based on the salary provided by the company.	0.809			
Appreciation	A1: I am satisfied with the praise and appreciation provided by my company.	0.719	0.707	0.894	0.703
	A2: My company provides appreciation based on the performance.	0.739			
	A3: I am satisfied with my job because I get enough appreciation from the company.	0.761			
	A4: I will perform well if I am satisfied with the appreciation provided by the company.	0.811			
	A5: My performance is based on the appreciation provided by the company.	0.819			
Recognition	R1: I am satisfied with the recognition provided by my company.	0.776	0.707	0.894	0.703
	R2: My company provides recognition based on the performance.	0.772			
	R3: I am satisfied with my job because I get enough recognition from the company.	0.746			
	R4: I will perform well if I am satisfied with the recognition provided by the company.	0.914			
	R5: My performance is based on the recognition provided by the company.	0.922			
Promotion	P1: I am satisfied with the promotion provided by my company.	0.719	0.934	0.919	0.640
	P2: My company provides promotions based on performance.	0.747			
	P3: I am satisfied with my job because I get timely promotion from the company.	0.846			
	P4: I will perform well if I am satisfied with the promotion provided by the company.	0.897			
	P5: My performance is based on the promotion provided by the company.	0.898			

the smallest sample size required in a PLS-SEM model to detect a minimum R2 value of 0.10, 0.25, 0.50, or 0.75 at 1%, 5%, and 10% significance levels. This investigation requires 124 samples to achieve R2 values of 0.10 with a 5% error rate and 80% statistical power due to the maximum of four independent variables. The study used a convenience sampling approach, resulting in a 96.5% response rate, and distributed 130 questionnaires instead of the required minimum of 124 in January 2024. This study examines the mediating effect of job satisfaction on wages, appreciation, recognition, promotion, and employee performance, evaluating both measurement and structural models in Fig. 2.

RESULTS AND DISCUSSION

Descriptive statistics and analysis for variables entering the analysis

Table 2 presents a demographic profile summary from a sample of 137, including gender, age, working experience, and position. Table 2 shows that 53.3% of respondents are males and 46.7% are females. The majority of respondents are between the ages of 31 and 40, with 53 in this group, 48 in the 21 to 30 age group, 22 in the 41 to 50 age group, and 7 in the 20 to 29 age group. The majority of respondents have more than ten years of experience, followed by those with 5-10 years, 3-5 years, and less. The questionnaires were completed by 76 executives and 61 non-executives.

Reliability and validity analysis

Internal consistency reliability measures the closeness of indicators measuring the same construct, with higher values indicating better reliability levels. Hair et al., (2021) found that reliability ratings between 0.60 and 0.70 are acceptable for exploratory research, while values between 0.70 and 0.90 range from satisfactory to good. Table 3 displays Cronbach’s alpha and composite reliability results, indicating a Cronbach’s alpha value of 0.818

to 0.919 and a composite reliability value of 0.640 to 0.797. Convergent validity evaluates the construct’s ability to explain the variability in its indicators, whereas outer loadings in reflective measurement models represent estimated relationships. According to Hessler et al., (2015), factors with loading values less than 0.5 should be dropped, as outer loadings of 0.7 or higher are highly satisfactory. Table 3 shows all outer loadings are above the 0.70 threshold, indicating adequate indicator dependability, with E2 having the highest loading at 0.949 and A1 and P1 having the lowest at 0.719. Hair et al., (2021) suggest that an acceptable Average Variance Extracted (AVE) of 0.50 or higher indicates that the construct explains 50% or more of the variance in the indicators. The current study’s constructs meet the minimum requirement of an AVE value of 0.50, as per Fornell and Larcker’s (1981) research.

Structural Model Results

Collinearity increases when there are two or more highly correlation-driven indicators in a formative measurement model. Table 4 reveals that the structural model assessment technique has all Variance Inflation Factors (VIFs) below the threshold of 5. The structural model does not significantly address the issue of collinearity among the predictor constructs. Hair et al., (2021) suggest that a VIF of 10 is acceptable, while others suggest a maximum limit of 5 and the highest possible level of 10.

Analysis of path coefficient, r-square, f-square, and q-square

The coefficient of determination (R2) indicates how much variation in an endogenous construct is explained by its predictor constructs. An R-square value of 0.50 indicates the independent variable can explain 50% of the dependent variable’s variation. Cohen (1992) suggests that R-square values for endogenous latent variables are 0.26 (substantial), 0.13 (moderate), and 0.02 (weak). Structural model

Table 4: VIF value

	Job Satisfaction	Employee Performance
Wages	2.428	2.007
Appreciation	2.115	
Recognition	2.231	
Promotion	2.370	2.219
Job satisfaction		2.112
Employee performance		

Table 5: Path coefficient, R-square, F-square and Q-square

	Hypothesis	Path Coefficient	Standard Deviation	T Statistics	p-value	r-square	f-square	q-square
H1	Wages -> Employee Performance	0.313	0.097	3.101	0.007			
H2	Wages -> Job Satisfaction	0.152	0.091	3.881	0.031			
H3	Appreciation -> Job Satisfaction	0.223	0.132	2.993	0.042	0.580	0.520	0.615
H4	Recognition -> Job Satisfaction	0.224	0.132	2.993	0.042			
H5	Promotion -> Job Satisfaction	0.285	0.114	3.337	0.005			
H6	Promotion -> Employee Performance	0.071	0.128	4.107	0.011			
H7	Job Satisfaction -> Employee Performance	0.330	0.099	4.521	0.027			
H8	Wages -> Job Satisfaction -> Employee Performance	0.317	0.103	3.996	0.010			
H9	Appreciation -> Job Satisfaction -> Employee Performance	0.382	0.117	3.722	0.048	0.406	0.306	0.674
H10	Recognition -> Job Satisfaction -> Employee Performance	0.382	0.117	3.722	0.048			
H11	Promotion -> Job Satisfaction -> Employee Performance	0.413	0.121	4.003	0.031			

variables can be influenced by various factors, and eliminating an external variable can alter the dependent variable. The removal of exogenous variables from a model results in changes in the R-square or F-square. Cohen (1992) uses the f-square to determine the effect size, with medium values being 0.15 and large values being 0.35. The Q-square, a statistical measure of model relevance, evaluates the model's predictive relevance, with a score greater than 0 indicating good relevance. The model's predictive significance is confirmed by Q-square values above zero, indicating proper rebuilding and well-organized constructs, as demonstrated by the Blindfolding method in PLS-SEM.

Summary of discussion findings

The study investigates the mediating effect of job satisfaction on the relationship between wages, appreciation, recognition, and promotion, and the dependent variable, employee performance. The study, conducted among employees of multinational semiconductor companies in Melaka, presented

and analyzed statistical outputs, with the findings summarized in Table 6.

The t-statistics value is 3.101, exceeding the 1.96 threshold, and the p-value is 0.007, below the 0.05 threshold, confirming the acceptance of hypothesis 1. The hypothesis test indicates a significant positive correlation between wages and employee performance. Assari et al., (2019) emphasize the importance of enhancing employee motivation and satisfaction through competitive wages, incentives, promotion, and job security for improved performance. The p-value of H2 is 0.031, below the threshold of 0.05, while the T statistics value is 3.881, exceeding the threshold of 1.96. Hypothesis 2 is accepted, indicating that employees in multinational semiconductor companies in Melaka are satisfied with their jobs due to a good wage. The hypothesis test indicates a significant correlation between wages and job satisfaction, suggesting that enhancing this element can boost employee motivation and productivity (Hassan et al., 2020). Andavar and Ali (2020) suggest that a wage increase can serve as a motivating factor to boost

Table 6: Summary of discussion findings

Hypothesis	Decision	Results
H1: A positive correlation between wages and employee performance.	Positive (p-values= 0.007)	Hypothesis Accepted
H2: A positive correlation between wages and job satisfaction.	Positive (p-values= 0.031)	Hypothesis Accepted
H3: A positive correlation between appreciation and job satisfaction.	Positive (p-values= 0.042)	Hypothesis Accepted
H4: A positive correlation between recognition and job satisfaction.	Positive (p-values= 0.042)	Hypothesis Accepted
H5: A positive correlation between promotion and job satisfaction.	Positive (p-values= 0.005)	Hypothesis Accepted
H6: A positive correlation between promotion and employee performance.	Positive (p-values= 0.011)	Hypothesis Accepted
H7: A positive correlation between job satisfaction and employee performance.	Positive (p-values= 0.027)	Hypothesis Accepted
H8: Job satisfaction positively influences the relationship between wages and employee performance.	Positive (p-values= 0.010)	Hypothesis Accepted
H9: Job satisfaction positively influences the relationship between appreciation and employee performance.	Positive (p-values= 0.048)	Hypothesis Accepted
H10: Job satisfaction positively influences the relationship between recognition and employee performance.	Positive (p-values= 0.048)	Hypothesis Accepted
H11: Job satisfaction positively influences the relationship between promotion and employee performance.	Positive (p-values= 0.031)	Hypothesis Accepted

employee satisfaction. The P value for H3 is 0.042, below the threshold of 0.05, while the T statistics obtained are 2.993, exceeding the threshold of 1.96. Appreciation has a significant impact on job satisfaction, as demonstrated by [Syamsir \(2020\)](#), emphasizing the importance of expressing gratitude to employees for motivation. Appreciation is a crucial aspect of professional relationships, personal development, and maintaining mental wellness at work, as it is the second most common cause of occupational psychological suffering ([Ali, 2021](#)). The t-statistics value exceeds the threshold of 1.96, while the p-value is 0.042, which is lower than 0.05 for hypothesis 4. The hypothesis test indicates a significant correlation between recognition and job satisfaction. Increasing workplace productivity and efficiency increases employee satisfaction because everyone wants to be recognized by their managers, coworkers, and clients ([Chandrawaty and Widodo, 2020](#)). Hypothesis five indicates a significant correlation between promotion and

job satisfaction. The study found that promotion positively impacts job satisfaction, with a T statistic value exceeding the 1.96 threshold and a p-value below 0.05. Promotions can motivate employees to work harder and more effectively to enhance their skills, as per [Assari et al., \(2019\)](#). Employers should prioritize timely promotions to maintain employee satisfaction and motivation, as suggested by [Dermawan and Tanuwijaya \(2023\)](#). The study found that promotion significantly impacts employee performance, with a P value of 0.011 and a T statistic of 4.107, which is lower than the threshold value of 1.96 for H6. Employees are primarily interested in work promotions as they highlight job dynamics and other components provided in line with the job description. [Haryono et al., \(2020\)](#) study reveals that job promotion significantly and positively impacts employee performance. The SMART-PLS software yielded t-statistics for H7 at 4.521, exceeding the threshold value, and a p-value of 0.027, below the 0.05 threshold. Job satisfaction significantly impacts

employee performance, as evidenced by a significant correlation found in the hypothesis test. [Kumari et al. \(2021\)](#) study revealed that job satisfaction significantly impacts employee performance, with satisfied employees performing better than dissatisfied ones. Management should implement effective strategies to boost employee satisfaction, enabling them to perform their duties effectively and achieve maximum performance. The study found a positive mediating effect of job satisfaction on wages and employee performance, with a p-value of 0.010 and a t-statistics value of 3.996 for H8. Supervisors should prioritize this aspect as it can enhance staff enthusiasm and productivity ([Hassan et al., 2020](#)). [Muhammad Hasmi et al., \(2019\)](#) study reveals wages are the most significant factor in enhancing job satisfaction and employee performance, surpassing other factors like promotions, job security, working conditions, and other benefits. For hypothesis 9, the t-statistics value is 3.722, exceeding the threshold value of 1.96, and the p-value is 0.048, which is less than 0.05. Recognizing employee engagement in the business can enhance performance and provide an effective non-monetary intrinsic incentive, making appreciation a valuable response to employee contributions. The T statistics value is 3.722, exceeding the threshold of 1.96, and the p-value is 0.048, below the 0.05 threshold for hypothesis 10. The hypothesis test indicates a significant link between recognition, job satisfaction, and employee performance, indicating that employees desire to be remembered by their employers, coworkers, and clients ([Chandrawaty and Widodo, 2020](#)). A United Kingdom survey of construction industry professionals ([da Cruz Carvalho et al., 2020](#)) found “recognition of their efforts” as the most significant organizational activity or metric. The p-value is 0.031, below the threshold of 0.05, while the t-statistics is 4.003, exceeding the threshold value of 1.96 for hypothesis 11. [Rahaman and Uddin \(2022\)](#) found that timely promotions positively impact job satisfaction and employee performance, suggesting businesses should prioritize timely promotions for employee motivation and contentment.

Practical and theoretical implication

The article explores strategies for businesses to foster a positive work environment, thereby enhancing job satisfaction and enhancing

employee performance. Managers can effectively promote organizational policies and implement measures to ensure employee satisfaction by understanding the identified relationships. This can be utilized by organizations to enhance individual and organizational productivity. Companies should employ strategies such as encouraging managers to participate in employee interactions, promoting problem-solving, providing support, and implementing empathy-building training and development programs. Implementing such interventions can enhance managers’ ability to provide appropriate support to their subordinates. Managers are often viewed as role models by their peers, and schemes for rewards and recognition may be established for their helpfulness. A fulfilling work environment and managers who foster a positive work atmosphere can enhance employee performance and job satisfaction, ultimately benefiting the company. In terms of theoretical implication, this study addresses knowledge, literature, and methodology gaps in multinational semiconductor companies in Melaka by analyzing job satisfaction through wages, appreciation, recognition, and promotion. The study’s results can serve as a foundation for future research that incorporates mediator variables to understand the impact of these variables on employee performance. The implication provides a valuable guideline for future theoretical and practical or managerial research by guiding researchers to explore new factors and identify additional variables for further study.

Limitation and future research

This study has limitations, including the study focused on four independent variables: wages, appreciation, recognition, and promotion. The study on hygiene factors, superior relationships, leadership, and colleagues in the Malaysian manufacturing industry could be expanded to other states in Malaysia. Firstly, this study utilized the PLS test to assess the mediating effect of job satisfaction on the relationship between wages, appreciation, recognition, and promotion on employee performance. Secondly, the analysis should be conducted using Analysis of Moment Structures (AMOS) and other statistical tools for future research. Thirdly, a survey was conducted

among employees of multinational semiconductor companies in Melaka. Future academics should explore the factors influencing work satisfaction and employee performance in both the public and private sectors to gain a comprehensive understanding of this complex concept. Finally, the quantitative method can be used to collect data differently. Future research could involve group or in-person interviews with respondents to gain a deeper understanding of employee performance. This hybrid approach, combining questionnaires, interviews, and social media monitoring, provides a comprehensive understanding of the analysis's components and may even create a visually appealing presentation.

CONCLUSION

The study confirms a significant positive correlation between wages and employee performance, with a t-statistics value exceeding the 1.96 threshold and a p-value below the 0.05 threshold of hypothesis 1. The p-value of Hypothesis 2 is 0.031, below the 0.05 threshold, and the T statistics value is 3.881, exceeding the 1.96 threshold, confirming the acceptance of Hypothesis 2. The hygiene theory is found to positively impact wage, job satisfaction, and employee performance, according to hypotheses 1, 2, and 8. The study accepts all hypotheses (H1 to H11), recommending a Management-by-objectives policy in all organizations. Perhaps, this study may benefit from incorporating the Vroom Expectancy theory, hygiene theory, incentive theory, and equity theory into MBO policy to enhance organizational performance. Management By Objectives (MBO) is a systematic method for setting objectives that enhance organizational performance and employee satisfaction. The impact of MBO strategy on employee performance and job satisfaction within an organization. The majority of (MBO) literature reviews the steps, implementation methods, and pros and cons of adopting an MBO program. The findings suggest that future policy strategies and recommendations should take into account Malaysian legal regulations on the Management by Objectives strategy. The data indicates that companies should establish rules that foster a positive work environment to ensure job satisfaction. The MBO policy aims to enhance an organization's performance by setting clear, mutually agreed-upon

goals. Management by Objectives policy can foster a sense of pride among employees by assigning goals that align with their abilities, knowledge, and background. Hence MBO is a performance management approach that balances employee and organizational objectives, promoting motivation and empowerment through challenging yet attainable goals. Implementing MBO enhances communication between management and employees, making them feel valued and boosting productivity. Employees who feel appreciated by management tend to perform better. The MBO approach is a management technique that encourages employees through constructive methods. Target management motivates employees to work hard and achieve company goals. Employees who receive bonuses, such as increased income or personal satisfaction, experience increased motivation and performance on an individual basis. Firms with intelligent and motivated employees generally achieve better performance. Employee satisfaction is directly linked to increased productivity and effectiveness within an organization, and a well-designed reward mechanism can significantly enhance this satisfaction level. In this case, Drucker's management by objectives approach is a straightforward method for motivating managers by setting clear goals enhancing a management system involves defining broad goals, defining individual responsibilities, and reviewing accomplishments to assess and reward performance within an organization. The Management by Objectives strategy should incorporate goal-setting techniques to create a conducive work environment that significantly enhances employee performance and satisfaction. Finally, Management by Objective, like other performance appraisal methods, offers organizations competitive advantages in trade, but also has disadvantages that make its application challenging in practice.

AUTHOR CONTRIBUTIONS

D. Kumar performed the literature review, and experimental design, analyzed and interpreted the data. H. Vasudevan prepared the manuscript text and manuscript edition. D. Kumar and H. Vasudevan performed the experiments and literature review, compiled the data, and manuscript preparation. D. Kumar performed the data analysis and findings while H. Vasudevan compiled the data analysis and

findings for the manuscript edition.

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CONFLICT OF INTEREST

The authors declare no potential conflict of interest regarding the publication of this work. In addition, the ethical issues including plagiarism, informed consent, misconduct, data fabrication and, or falsification, double publication and, or submission, and redundancy have been completely witnessed by the authors.

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ABBREVIATIONS

AMOS	Analysis of Moment Structures
AVE	Average Variance Extracted
HP	Hypothesis
<i>p-value</i>	Probability value
R^2_{adj}	Adjusted coefficient of determination
R^2	Coefficient of determination
<i>r</i>	Pearson correlation coefficient
<i>r-value</i>	Pearson correlation coefficient
\bar{Y}	Average of observed data
α	Level of significance
MBO	Management By Objective
PLS-SEM	Partial Least Squares Structural Equation Modeling
VIF	Variance Inflation Factor

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